FOXBOX 4G VGA

Fiber Optic Extender for VGA, Audio, and RS-232

FOXBOX 4G VGA Transmitter

FOXBOX 4G VGA Receiver

FEATURES

- **Extends VGA, stereo audio, and RS-232 control signals very long distances over a single fiber**

- **Inputs: RGBHV, RGBS, RGsB, or RsGsBs on 15-pin HD; unbalanced stereo audio on 3.5 mm stereo mini jack - FOXBOX 4G Tx VGA**

- **Outputs: RGBHV, RGBS, or RGsB on 15-pin HD; unbalanced stereo audio on 3.5 mm stereo mini jack - FOXBOX 4G Rx VGA**

- **All digital, zero compression technology provides pixel-for-pixel performance with signals up to 1600x1200** — The FOXBOX 4G VGA delivers uncompressed pixel-for-pixel transmission of video signals to ensure optimal image quality at resolutions up to UXGA (1600x1200). Signal resolutions higher than UXGA can be accommodated, but will not be sampled at a 1:1 pixel ratio.

- **Daisy-chain capability** — Several FOXBOX 4G VGA receivers can be daisy-chained so that displays in multiple locations can be served from a single transmitter.

- **Available as an 850 nm multimode model for moderate-range transmissions, and a 1310 nm singlemode model for extreme distances up to 30 km (18.75 miles)**

- **Second fiber link enables bi-directional RS-232 pass-through, control from either location, and real-time system monitoring**

- **Real-time status LED indicators for troubleshooting and monitoring** — LEDs on the transmitter and receiver front panels verify the presence of RGB and audio signals at the transmitter as well as active fiber links between the units. Requires second fiber link.

- **Alarm notification for fiber link loss** — The FOXBOX 4G VGA can be set up to trigger an external control system for immediate notification when a fiber link has been lost. Requires second fiber link.

- **Auto Input Memory** — When activated, the FOXBOX 4G VGA automatiy stores size, position, and detail information based on the incoming signal. When the same signal is detected again, these image settings are automatiy reed from memory.

- **Industry standard LC connectors provide reliable physical connectivity and precise fiber core alignment**

- **30 user memory presets** — In addition to Auto Memory, 30 user memory presets are available for saving and re of size, position, and detail information for multiple incoming sources. The ability to save and re presets is useful in switcher-based environments.

- **Active PC audio to balanced audio interfacing**

- **Audio gain & attenuation adjustment and muting capability**

- **RS-232 serial control at transmitter and receiver** — The FOXBOX 4G VGA transmitter and receiver feature RS-232 serial ports for control and configuration. The second fiber link allows for control of both units at either location, as well as remote verification of fiber link status and the presence of input VGA and audio signals.

- **Internal test patterns for calibration and setup** — Three test patterns are available, including grayscale, color bars, and alternating pixels.

- **Auto-Image™ automatiy optimizes output** — A press of a button automatiy adjusts the sizing, centering, and filtering to optimize the output image. This can save time and effort in fine tuning displayed images. Requires second fiber link.

- **Compatible with FOXBOX 4G DVI, FOX 500, and FOX 500 DVI transmitters and receivers, and FOX 500 DA6 transmitter/distribution amplifier**

- **1" (2.5 cm) high, quarter rack width metal enclosures** — With a low profile enclosure, both devices can be discreetly installed, such as behind a plasma or LCD flat-panel display.

- **External universal power supply included, replacement part # 70-775-01** — Provides worldwide power compatibility.

DESCRIPTION

The Extron **FOXBOX 4G VGA** Fiber Optic Extender is a transmitter and receiver set for long haul transmission of high resolution VGA, audio, and RS-232 control signals over a single fiber. Engineered for reliability and exceptional high resolution image performance, it uses Extron's exclusive all digital, zero compression technology, to deliver perfect pixel-for-pixel transmission of computer-video images up to UXGA (1600x1200) resolution. Designed specifiy for A/V systems, the FOXBOX 4G VGA also includes a host of integrator-friendly features such as image adjustments and calibration, auto input memory, RS-232 control from multiple locations, internal test patterns, and real-time system monitoring. Compact, low profile enclosures allow for discreet installation behind a flat-panel display, and multiple receivers can be daisy-chained.

The FOXBOX 4G VGA is ideal for a wide range of applications requiring long distance transmission of high resolution content with the highest quality. Because transmission of content is inherently secure and immune to outside interference, fiber applications are favored in government, military, and medical environments. The FOXBOX 4G VGA transmitter and receiver feature industry standard LC-type connectivity.

The FOXBOX 4G VGA MM supports multimode fiber at 850 nm, which is typiy used within buildings or facilities with moderate-range transmission distances up to 150 meters (492 feet). The FOXBOX 4G VGA SM supports singlemode as well as multimode fiber at 1310 nm. Singlemode fiber offers long-range transmission capability over extreme distances of up to 30 km (18.75 miles). It is used in very large facilities such as airports and stadiums, as well as connecting over very long distances between facilities such as university campuses.

The FOXBOX 4G VGA transmitter accepts, digitizes, and transmits all RGB format signals – RGBHV, RGBS, RGsB, and RsGsBs, along with unbalanced stereo audio and RS-232 control signals. The transmitter also provides controls for optimizing video and audio signals. The FOXBOX 4G VGA receiver features sync format conversion for RGBHV, RGBS, or RGsB output. Several receivers may be daisy-chained to support applications with displays in multiple locations.

The transmitter and the receiver can be controlled and configured using the RS-232 port on the FOXBOX 4G VGA transmitter. With a second fiber link installed, functions for both units can be controlled at either location. Since the units are typiy situated far apart, this capability adds considerable versatility, enabling adjustment and calibration of video and audio at the receiver. It also allows for verification of fiber link status between the units as well as the presence of VGA and audio input signals at the transmitter.

DVI-to-Analog RGB and Analog RGB-to-DVI Conversion
The FOXBOX 4G VGA transmitter and receiver are available separately. Either device can be paired with the FOXBOX 4G DVI or FOX 500 DVI transmitter or receiver to provide ultra-long distance conversion of DVI-D signals to analog RGB and vice versa.

MODEL	VERSION DESCRIPTION	PART #
FOXBOX 4G Tx VGA MM	Multimode - Transmitter	60-934-11
FOXBOX 4G Rx VGA MM	Multimode - Receiver	60-934-21
FOXBOX 4G Tx VGA SM	Singlemode - Transmitter	60-934-12
FOXBOX 4G Rx VGA SM	Singlemode - Receiver	60-934-22

Extron

FOXBOX 4G VGA

SPECIFICATIONS

NOTE: *These transceivers are class 1 laser products. They meet the safety regulations of IEC-60825, FDA 21, CFR 1040.10, and FDA 21 CFR 1040.11.*

OPTICAL FIBER INTERCONNECTION BETWEEN TRANSMITTER AND RECEIVER

Number/type .... 1 or 2 fiber optic
Operating distance .... 30 km (18.75 miles) with singlemode (SM) cables with a FOXBOX 4G SM
0.15 km (492') with multimode (MM) cables with a FOXBOX 4G MM

NOTE: Operating distance is approximate. These are typical distances. The maximum distance may be greater than these typical numbers depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.

Nominal peak wavelength ...... 850 nm for FOXBOX 4G MM, 1310 nm for FOXBOX 4G SM
Data rate .... 4.25 Gbps
Transmission power
Singlemode .... -5 dBm, typical
Multimode .... -5 dBm, typical
Maximum receiver sensitivity
Singlemode .... -18 dBm, typical
Multimode .... -12 dBm, typical
Optical loss budget
Singlemode .... 13 dB, maximum
Multimode .... 7 dB, maximum

VIDEO — FOXBOX 4G VGA TX/RX

Signal type .... VGA-UXGA RGBHV, RGBS, RGsB, RsGsBs
Maximum resolution .... 1600x1200 @ 60 Hz, digitized pixel for pixel; higher resolutions up to
2048x1120, undersampled

VIDEO INPUT — FOXBOX 4G VGA TX

Number/signal type .... 1 VGA-UXGA RGBHV, RGBS, RGsB, RsGsBs

VIDEO OUTPUT — FOXBOX 4G VGA RX

Number/signal type .... 1 VGA-UXGA RGBHV, RGBS, RGsB, RsGsBs (follows input or can be set by user)
Video delay .... 1-2 frames

SYNC — FOXBOX 4G VGA TX/RX

Input type .... RGBHV, RGBS, RGsB, RsGsBs

VIDEO — FOXBOX 4G DVI TX/RX

Resolution range .... Up to 1600x1200 or 1080p @ 60 Hz pixel for pixel; higher resolutions up to
1920x1200 @ 60 Hz undersampled
Standards .... DVI 1.0, HDMI 1.2

VIDEO INPUT — FOXBOX 4G DVI TX

Number/signal type .... 1 single link DVI-D (or HDMI*)

VIDEO OUTPUT — FOXBOX 4G DVI RX

Video delay .... 1-2 frames

AUDIO

Frequency response .... 20 Hz to 20 kHz, ±0.5 dB

AUDIO INPUT — TRANSMITTERS (FOXBOX 4G DVI/VGA TX)

Number/signal type .... 1 unbalanced stereo or 2 unbalanced mono
Connectors .... (1) 3.5 mm mini stereo jack
Nominal level .... -10 dBV (316 mVrms)

AUDIO OUTPUT — RECEIVERS (FOXBOX 4G DVI/VGA RX)

Number/signal type .... 1 unbalanced stereo or 2 unbalanced mono
Connectors .... (1) 3.5 mm mini stereo jack
Nominal level .... -10 dBV (316 mVrms)
Audio delay .... 1.5 frames

CONTROL/REMOTE

Serial control ports on each unit (transmitter and receiver)
Control .... 1 RS-232, 2.5 mm mini stereo jack (front panel)
Pass-through .... 1 RS-232, 3.5 mm captive screw connector, 5 pole (3 pins are used) (rear panel)

GENERAL

External power supply .... 100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 1 A, regulated
Power input requirements ...... 12 VDC, 1 A
Temperature/humidity .... Storage: -40 to +158 ˚F (-40 to +70 ˚C) / 10% to 90%, noncondensing
Operating: +32 to +122 ˚F (0 to +50 ˚C) / 10% to 90%, noncondensing
Cooling .... Fan, from top to bottom, vents are on side panels
Mounting
Rack mount .... Yes, with optional 1U, 9.5" deep rack shelf (RSU 129, #60-190-01; or RSB 129,
60-604-01)
Enclosure type .... Metal
Enclosure dimensions .... 1.0" H x 4.3" W x 6.0" D (<1U high, quarter rack wide)
(2.5 cm H x 10.9 cm W x 15.2 cm D)
(Depth excludes connectors.)
Product weight .... 0.7 lbs (0.3 kg) per unit, 1.4 lbs (0.6 kg) per pair
Shipping weight .... 3 lbs (2 kg) per unit, 6 lbs (3 kg) per pair
Regulatory compliance
Safety .... CE, C-tick, CUL, FDA Class 1, UL
EMI/EMC .... CE, C-tick, FCC Class A, ICES, VCCI
MTBF .... 30,000 hours
Warranty .... 3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

Note: For complete specifications, please go to www.extron.com